

ABSTRACT

A shaft (12) for a pump (10) or other rotating machine, made substantially out of only engineering plastic--such as the polymer PEEK or some other selected polymer--and including portions having respective surfaces (12a-d) serving as bearing surfaces, the shaft (12) thus integrating the functions of both a shaft structure and a bearing structure. In some applications, the shaft (12) includes both portions having respective surfaces serving as radial bearing surfaces (12a-b) and also portions having respective surfaces serving as thrust bearing surfaces (12c-d), all made from the same engineering plastic as the rest of the shaft (12) and formed as part of the shaft (12). The engineering plastic may include one or more additives such as PTFE or carbon fiber, especially in case of dry-run applications.